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ABSTRACT

This paper discusses the development and uses of an instrument to assiss attitudes and behaviors in students adjusting to a new learning environment. The pilot program in personalized education, designed and implemented at Auburn University, was constructed around a framework of four global teacher roles (diagnostician, facilitator, interactor, innovator). In order to isolate those attitudes and behaviors that seemed to be important for successful performance in the program, data were obtained from students who had completed the program. These data were synthesized and presented in the form of a 31-item instrument, which was designed to reflect student self-assessment. Students taking the course were asked to complete the form three times during the two-quarter program. Group results are presented in two tables. Plans are being made to revise the checklist, which will be used in counseling students. (PD)

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ASSESSING STUDENT ATTITUDES AND BEHAVIORS IN AN OPEN TEACHER EDUCATION LEARNING ENVIRONMENT

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In recent years, many teacher educators have radically changed their instructional methods, shifting from a professor-centered to a more student-centered approach. In most cases, instructional goals have been broadened to include calling upon the student to demonstrate what he has learned in observable performance. Equally stressed as an instructional goal has been helping the student develop a set for self-directed as well as interdependent learning. Of necessity, the learning environment has undergone considerable change. It has become more complex, more adaptive to the individual student. Value has been placed on providing freedom for the student to respond to his own learning needs while increasing his responsibility for his own learning. The desired end of such instruction is the mature and professionally competent teacher.

Some students have welcomed these changes as long overdue. However, serious problems have arisen when others, accustomed to minimum variations in learning conditions, a narrow range of options, and fixed paths to success have been suddenly cast into a highly diversified, demanding system. The need for establishing how venturesome and resourceful each student is upon entry to such a system has become a pressing one.

Research supports the notion that as one becomes more competent, he develops a "sense of competence," or feelings about the levels of competence attained.

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He feels more willing to extend himself, to take risks, to take on new and varied responsibilities, and to open himself up to others. His level of competence and his "sense of competence" are mutually influenced.[1] Theoretically, a measure of a student's sense of "competence" could indicate his fit within an instructional system. This article describes an attempt to assess students' set for a different kind of learning environment at the university level and the results of working in the environment for a period of time.

As a part of a TTT Project (Training Teacher Trainers), funded by the U. S. Office of Education, a pilot program in personalized education was designed and implemented at Auburn University. The modular program, constructed around a framework of four global teacher roles (diagnostician, facilitator, interactor, innovator) resulted in the creation of a different kind of learning environment. With the institutionalization of the pilot program in the Department of Elementary Education came a redirection and reorganization of its professional program. For the first time, interdepartmental faculty teams were working with groups of students for a three-quarter sequence. Goals of the program, as well as the management system, generated the need for attitudes and behaviors on the part of students which were very different from those found in the more conventional program. The attitudes and behaviors tended to emerge as the students and faculty worked together in the new learning environment. Adjustments to the new environment, however, were not easy, nor did they readily become a reality for all students.

In order to isolate those attitudes and behaviors which seemed to be important for successful performance in the program, we obtained data from

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[1]Arthur W. Chickering, Education and Identity, San Francisco: Jossey-Bass, Inc., 1972, pp. 34-37.

students who completed the program, some experiencing considerable difficulty while others progressed with very few problems. We were interested in knowing what made the difference.

At two different points in the program--at midpoint and at the end---each student prepared an audio tape on which he recorded his reactions to the program, particular problems encountered, insights concerning his own growth, and suggestions for improving the program. In addition to providing a kind of oral history of the program, these tapes, over a period of time, helped us identify some student attitudes and behaviors which were important in the achievement of program goals. Transcriptions of these tapes yielded information which was not only valuable input for program changes but quite helpful in the construction of an instrument for future use. Information from the tapes was supplemented by faculty observation of students and by informal sessions where students discussed their perception of the program and their performance in it. The data were synthesized and then presented in the form of thirty-one items on the instrument which appears below.

AUTONOMY INVENTORY
(1973)

NAME_____

DATE_____

(Circle the number on the scale, indicating your present perception of your own attitudes and behaviors.)

	DESCRIBES MY ATTITUDE OR MY BEHAVIOR (MOST OF THE TIME)				DOES NOT DESCRIBE MY ATTITUDE OR BEHAVIOR
1. Comfortable in expressing disagreement with instructors	5	4	3	2	1

2.	Upset by sudden changes in plans.	5	4	3	2	1
3.	Able to be open to criticism without self defense.	5	4	3	2	1
4.	Bothered by uncertain and unpredictable conditions.	5	4	3	2	1
5.	Tend to listen critically.	5	4	3	2	1
6.	Willing to take risks.	5	4	3	2	1
7.	Hesitant to initiate conferences with faculty members.	5	4	3	2	1
8.	Confident in ability to work with children.	5	4	3	2	1
9.	Have difficulty making decisions on my own.	5	4	3	2	1
10.	Have difficulty expressing myself before a group.	5	4	3	2	1
11.	Tend to procrastinate.	5	4	3	2	1
12.	Like to learn from peers.	5	4	3	2	1
13.	Have difficulty understanding written directions.	5	4	3	2	1
14.	Able to accept others' point of view when different from mine.	5	4	3	2	1
15.	Have difficulty handling a variety of responsbilities at one time without feeling "snowed under."	5	4	3	2	1
16.	Prefer to work alone rather than as a group member.	5	4	3	2	1
17.	Willing to serve on faculty-student committees.	5	4	3	2	1
18.	Able to work on independent projects.	5	4	3	2	1
19.	Willing to tackle new and/or difficult problems.	5	4	3	2	1

20. Have difficulty talking to instructors.	5	4	3	2	1
21. Have difficulty writing papers.	5	4	3	2	1
22. Have difficulty setting realistic goals for myself.	5	4	3	2	1
23. Able to achieve goals I set for myself.	5	4	3	2	1
24. Able to generate original ideas.	5	4	3	2	1
25. Need reassurance from faculty members.	5	4	3	2	1
26. Have difficulty locating and making use of wide range of resources to accomplish a task.	5	4	3	2	1
27. Would be hesitant to form groups of peers to accomplish a task.	5	4	3	2	1
28. Have difficulty scheduling time efficiently to accomplish tasks.	5	4	3	2	1
29. Do not think I can learn from peers.	5	4	3	2	1
30. Able to read critically.	5	4	3	2	1
3. Willing to help peers learn.	5	4	3	2	1

The instrument was designed in such a way that the completion reflected a self-assessment by the student. He was asked to indicate his perception of his own attitudes and behaviors at a particular point in time. The results could then be quantified for purposes of comparing student self-assessment at various times during the program.

The scoring procedure, while being very subjective (based on what faculty members had determined to be desired attitudes and behaviors), simply called

for a sum of scores on the thirty-one items. The way the statements were constructed made it necessary to reverse the values on some items in order to be consistent in the scoring procedure. For example, if the student circled 2 on Item 11, "Tend to procrastinate," the score on that item was 2. If he circled 4 on Item one, "Comfortable in expressing disagreement with instructors," he likewise received a score of 2 on this item, thus maintaining consistency in the scoring procedure. By scoring in this way, a low score became desirable. This means that if a student received a high score he would probably have difficulty in the program. Perusal of the items on the checklist will give the reader some idea of the nature of the learning environment in the program and some of the requisite attitudes and behaviors.

Using the Instrument

Beginning with the third group of students who entered the program we asked each student to complete the instrument. It was explained to the students that the self-assessment would be helpful as faculty members counseled with students relative to their progress in the achievement of program goals. At the end of the first quarter--the program is a part of a two-quarter sequence which preceded internship---the students were asked to complete the instrument again. Likewise, at the end of the program students were asked to make a final self-assessment. The group results are shown in Table 1.

Table 1
Comparisons of Autonomy Inventory Scores at Three Points in the Program

Point	N	$\bar{X}$	df	t	Sig.
Entry	25	77.48			
Interim	25	69.68	24	1.963	.05
Interim	25	69.68			
Exit	25	62.44	24	2.043	.05
Entry	25	77.48			
Exit	25	62.44	24	4.008	Beyond .01

The statistic used for these comparisons was the t-test of the significance between the means, conducted as a one-tailed test to measure results acquired in the valued score direction. Means of three sets of scores acquired over a time span of two quarters were compared to ascertain any significant movement in the desired direction of response.

The t-test analysis from entry to mid-point in the program showed a significant t of 1.963 between the means of students's scores. Examination of the mean scores in the Table 1 indicates that the Interim score was significantly lower.

A second t-test analysis applied to the Interim and Exit scores produced similar results. Difference between these two sets of scores was somewhat greater than between preceding ones. Again, the significantly lower score was the last one attained.

A final t of 4.008 obtained by comparing the Entry and Exit means indicated a difference significant beyond the .01 level between the two

groups of scores. Thus, the group scores show a steady and remarkable change in response in the direction of those attitudes and behaviors valued in the new learning environment.

With this evidence that the group was responding in a positive manner, we directed our attention to individuals obscured in the group treatment of data. Idiosyncratic patterns of response were immediately recognizable. (See Table 2) For example, Student 6's score made a significant drop during the first period and stabilized until the end of the program. Student 8's response pattern was the reverse of this during the two time periods. Student 14's scores went up then down; Student 15's down then up. Reversals in the desired direction of response took place with students 17, 24, and 25 with 17 reflecting an extremely difficult adjustment period at mid-point in the program.

Table 2

Individual Student scores at Three Points in the program

Student	Entry	Interim	Exit
1	108	92	63
2	106	91	88
3	98	87	66
4	95	77	63
5	89	65	62
6	89	61	60
7	87	75	74
8	86	82	50
9	85	70	74
10	81	64	62
11	79	67	66
12	77	68	66
13	74	64	53
14	73	81	68
15	73	53	69
16	70	54	48
17	69	101	80
18	68	56	62
19	68	74	67
20	64	67	55
21	63	54	53
22	63	52	39
23	62	59	37
24	57	60	64
25	53	68	72

Observations by faculty members, information from student tapes, and conferences with individuals and small groups of students generally gave support to the individual student scores. As the scores indicate, some students' self-assessment changed a great deal from the time of entry into the program to the time of completion. Observed changes in student attitudes and behavior supported these perceived changes by students. Likewise, the final evaluation session with each student---students were invited to participate with the faculty team in arriving at their grades---resulted in very revealing statements about growth. Illustrative examples included such statements as: "I learned how to learn"; "I learned so much about myself"; "I learned to take more responsibility for my own learning."

Plans for Future Use

Realizing that the instrument is an initial attempt to assess attitudes and behaviors which are important in a unique learning environment at the university level, we will revise the checklist, giving particular attention to clarifying ambiguous statements, isolating items which seem to be more critical, and grouping items (for scoring purposes) under various categories. For instance, obtaining separate scores in such categories as "Communication Skills", "Interpersonal Relationships", and "Self-direction" would be more helpful for counseling purposes than one composite score. This categorization will help to eliminate some items which do not seem to be critical; it likewise will help to clarify concepts through the inclusion of additional items on the checklist.

Data from the checklist will continue to be used for counseling purposes. This counseling process will be augmented through the formation of groups for the purpose of giving particular attention to categories. As an example, if several students are having difficulty in such areas as setting goals and

budgeting time, a group can be formed for the purpose of arriving at courses of action which might be helpful. Students who have completed the program can be invited to participate as resource persons when the particular problem area is being considered by the group. Faculty members are aware of former students who had certain kinds of difficulties in the program and who were able to gain proficiency in processes which were important to their success in the program. Having these students participate in group sessions should be very helpful.

There is an inherent weakness in any instrument which calls upon the individual to assess himself. The chance is always present that the person will report what he thinks he should report. We will not attempt to deal with this weakness. Rather than dealing with this point in the instrument, we have tried to build an atmosphere characterized by trust and openness where the student will not be threatened by an honest self-assessment. We are far from this ideal; however, as a faculty team committed to the goals of the program continues to learn from experience, and as the team gains greater proficiency in the complex processes of working together and working with students in the implementation of a truly open learning community concept, progress toward the ideal becomes more realizable. Continual growth in competence, confidence, and trust in fellow human beings emerges as a need on the part of the people who participate in this environment. Strangely enough, and in rather subtle ways, the environment we have created, while obviously in a state of imperfection, has resulted in growth on the part of both faculty and students.